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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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03/09/1999

DAVID C. TANNENBAUM

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03/16/2009

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PHILADELPHIA, PA 19104-2891

EXAMINER

BRIER, JEFFERY A

ART UNIT

PAPER NUMBER

2628

MAIL DATE

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03/16/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 09/265,493	Applicant(s) TANNENBAUM, DAVID C.	
	Examiner Jeffery A. Brier	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 December 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10-20 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Amendment

1. The amendment filed on 12/15/2008 has been entered.

Response to Arguments

2. Applicant's arguments filed 12/15/2008 concerning the objection to the specification have been fully considered but they are not persuasive. Page 5 line 2 lists "N = outward surface normal vector at a pixel" which is different narrow than the claimed "a surface normal vector". The argument concerning the objection to the specification is not persuasive because the list of parameters on pages 4 and 5 includes "outward surface normal vector at the pixel" while claim 6 with reference to claim 3 lists a surface normal vector. A parameter for a pixel discussed in the background of the invention at pages 4 and 5 is different than a parameter for a vertex discussed in the detailed specification at page 12, thus, the background description cannot be used to provide proper antecedent basis for the claimed subject matter due to the differences in words used in the claim and the background of the invention.

Specification

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: The limitation found in claims 6, 12, and 16 "a surface normal vector" is not found in the specification, refer to applicants specification at page

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12 last line to page 13 line 4. Applicant may be able to add "a surface normal vector" to the list of per-primitive parameters listed at page 12 last line to page 13 line 4.

Claim Objections

4. Claims 1-20 are objected to because of the following informalities:

claim 1 at line 9 after "parameters", claim 10 at line 9 after "primitive", and claim 15 at line 15 after "value" a coma or semicolon is needed.

Appropriate correction is required.

5. Claims 2-9 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. The parent independent claim (1) claims "In a computer graphics system...a method for...the method comprising" while their dependent claims only refer to "The method", thus, these claims appear to claim only a method. MPEP 608.01(n) II and III Original Eighth Edition, August 2001 Latest Revision July 2008.

608.01(n)Dependent Claims [R-7] Rev. 7, July 2008

II.TREATMENT OF IMPROPER DEPENDENT CLAIMS, at pages 600-90 to 600-91

The initial determination, for fee purposes, as to whether a claim is dependent must be made by persons other than examiners; it is necessary, at that time, to accept as dependent virtually every claim which refers to another claim, without determining whether there is actually a true dependent relationship. The initial acceptance of a claim as a dependent claim does not, however, preclude a subsequent holding by the examiner that a claim is not a proper dependent

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claim. Any claim which is in dependent form but which is so worded that it, in fact is not, as, for example, it does not include every limitation of the claim on which it depends, will be required to be *canceled* as not being a proper dependent claim; and cancelation of any further claim depending on such a dependent claim will be similarly required. Where a claim in dependent form is not considered to be a proper dependent claim under 37 CFR 1.75(c), the examiner should object to such claim under 37 CFR 1.75(c) and require cancellation of such improper dependent claim or rewriting of such improper dependent claim in independent form. See *Ex parte Porter*, 25 USPQ2d 1144, 1147 (Bd. of Pat. App. & Inter. 1992) (A claim determined to be an improper dependent claim should be treated as a formal matter, in that the claim should be objected to and applicant should be required to cancel the claim (or replace the improper dependent claim with an independent claim) rather than treated by a rejection of the claim under 35 U.S.C. 112, fourth paragraph.). The applicant may thereupon amend the claims to place them in proper dependent form, or may redraft them as independent claims, upon payment of any *necessary* additional fee.

Note, that although 37 CFR 1.75(c) requires the dependent claim to further limit a preceding claim, this rule does not apply to product-by-process claims.

III.INFRINGEMENT TEST, at page 600-91

The test as to whether a claim is a proper dependent claim is that it shall include every limitation of the claim from which it depends (35 U.S.C. 112, fourth paragraph) or in other words that it shall not conceivably be infringed by anything which would not also infringe the basic claim.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 1-9 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

These claims claim "In a computer graphics system and "a method for applying...the method comprising", thus, these claims are unclear if the invention is a

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machine or a process. In view of MPEP 2173.05(p) Original Eighth Edition, August 2001 Latest Revision July 2008 at page 2100-230 these claims are indefinite.

II.PRODUCT AND PROCESS IN THE SAME CLAIM at page 2100-230

A single claim which claims both an apparatus and the method steps of using the apparatus is indefinite under 35 U.S.C. 112, second paragraph. ** > IPXL Holdings v. Amazon.com, Inc.*, 430 F.2d 1377, 1384, 77 USPQ2d 1140, 1145 (Fed. Cir. 2005); *< Ex parte Lyell*, 17 USPQ2d 1548 (Bd. Pat. App. & Inter. 1990) ** > (< claim directed to an automatic transmission workstand and the method * of using it * held **ambiguous and properly rejected under 35 U.S.C. 112, second paragraph > <.*

Such claims ** > may <* also be rejected under 35 U.S.C. 101 based on the theory that the claim is directed to neither a "process" nor a "machine," but rather embraces or overlaps two different statutory classes of invention set forth in 35 U.S.C. 101 which is drafted so as to set forth the statutory classes of invention in the alternative only. *Id.* at 1551.

Claim Rejections - 35 USC § 101

8. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1-9 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

a) These claims claim in parent claim 1 "In a computer graphics system" and "a method for applying...the method comprising", thus, these claims are unclear if the invention is a machine or a process. In view of MPEP 2173.05(p) Original Eighth Edition, August 2001 Latest Revision July 2008 at page 2100-230 these claims are non-statutory.

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b) Supreme Court precedent¹ and recent Federal Circuit decisions² indicate that a statutory “process” under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. While the instant claim(s) recite a series of steps or acts to be performed, the claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

These method claims only claim determining a pixel value and storing the determined pixel value in a frame buffer. The selecting, substituting, and determining steps are abstract ideas and mathematical algorithms and the receiving and storing steps are insignificant extra-solution activity. In re Bilski, 88 USPQ2d 1385 (Fed. Cir. 2008). The receiving step does not claim how the data gathering is performed which was discussed as being held non-statutory at page 1397 of In Re Bilski which stated (emphasis added by underlining):

This court and our predecessor court have frequently stated that adding a data-gathering step to an algorithm is insufficient to convert that algorithm into a patent-eligible process. E.g., *Grams*, 888 F.2d at 840 (step of “deriv[ing] data for the algorithm will not render the claim statutory”); *Meyer*, 688 F.2d at 794 (“[data-gathering] step[s] cannot make an otherwise nonstatutory claim statutory”). For example, in *Grams* we , held unpatentable a process of performing a clinical test and, based on the data from that test, determining if an abnormality existed and possible causes of any abnormality. 888 F.2d at 837, 841. We rejected the claim because it was merely an algorithm combined with a data-gathering step. *Id.* at 839-41. We note that, at least in most cases, gathering data would not constitute a transformation of any article. A requirement simply

¹ *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876).

² *In re Bilski*, 88 USPQ2d 1385 (Fed. Cir. 2008).

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that data inputs be gathered—without specifying how—is a meaningless limit on a claim to an algorithm because every algorithm inherently requires the gathering of data inputs. *Grams*, 888 F.2d at 839-40. Further, the inherent step of gathering data can also fairly be characterized as insignificant extra-solution activity. See *Flook*, 437 U.S. at 590.

The storing step is discussed as being held non-statutory with regard to recordation in footnote 14 on page 1393 of *In Re Bilski* which stated (emphasis added by underlining):

¹⁴ Although the Court spoke of "postsolution" activity, we have recognized that the Court's reasoning is equally applicable to any insignificant extra-solution activity regardless of where and when it appears in the claimed process. See *In re Schrader*, 22 F.3d 290, 294 (Fed. Cir. 1994) (holding a simple recordation step in the middle of the claimed process incapable of imparting patent-eligibility under § 101); *In re Grams*, 888 F.2d 835, 839-40 (Fed. Cir. 1989) (holding a pre-solution step of gathering data incapable of imparting patent-eligibility under § 101).

Similarly the displaying of claim 2 is an insignificant step, note the discussion of *In re Abele* at page 1397 since the displaying step does not perform "transformation of that raw data into a particular visual depiction of a physical object on a display" which page 1397 stated (emphasis added by underlining):

Our predecessor court's mixed result in *Abele* illustrates this point. There, we held unpatentable a broad independent claim reciting a process of graphically displaying variances of data from average values. *Abele*, 684 F.2d at 909. That claim did not specify any particular type or nature of data; nor did it specify how or from where the data was obtained or what the data represented. *Id.*; see also *In re Meyer*, 688 F.2d 789, 792-93 (CCPA 1982) (process claim involving undefined "complex system" and indeterminate "factors" drawn from unspecified "testing" not patent-eligible). In contrast, we held one of *Abele*'s dependent claims to be drawn to patent-eligible subject matter where it specified that "said data is X-ray attenuation data produced in a two dimensional field by a computed tomography scanner." *Abele*, 684 F.2d at 908-09. This data clearly represented physical and tangible objects, namely the structure of bones, organs, and other body tissues. Thus, the transformation of that raw data into a particular visual depiction of a physical object on a display was sufficient to render that more narrowly-claimed process patent-eligible.

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We further note for clarity that the electronic transformation of the data itself into a visual depiction in Abele was sufficient; the claim was not required to involve any transformation of the underlying physical object that the data represented. We believe this is faithful to the concern the Supreme Court articulated as the basis for the machine-or-transformation test, namely the prevention of pre-emption of fundamental principles. So long as the claimed process is limited to a practical application of a fundamental principle to transform specific data, and the claim is limited to a visual depiction that represents specific physical objects or substances, there is no danger that the scope of the claim would wholly pre-empt all uses of the principle.

Claims 3-6 claim various primitives and parameters.

Claim 7 is a data gathering step which claims typical texture map accessing.

Claims 8 and 9 claim abstract ideas and mathematical algorithms.

Allowable Subject Matter

10. Claims 10-20 would be allowable if rewritten or amended to overcome the objection set forth in this Office action.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffery A. Brier whose telephone number is (571) 272-7656. The examiner can normally be reached on M-F from 7:30 to 4:00. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi, can be reached at (571) 272-7664. The fax phone Number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for

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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Jeffery A. Brier/
Primary Examiner, Division 2628